TITLE

IMPROVED DESIGN FOR LACROSSE STICK

AND METHOD OF USING SAME

BACKGROUND AND SUMMARY

[0001] This patent application generally relates to an improved design for a lacrosse stick and to a method of using same. More specifically, the improvement relates, *inter alia*, to an extendable lacrosse stick, to a quick-change head/shaft for a lacrosse stick and to a method of using those stick designs whereby the stick can be adjusted "on the fly" and/or without the use of any tools.

[0002] At present, many lacrosse players play more than one position. In that situation, they often have more than one stick. For example, they may have a "long pole" for playing defense, a short "attack" stick and, possibly, even a different "middie" stick. Each of these sticks may vary in length. And, as any player or parent knows, the cost of lacrosse equipment is significant.

[0003] Moreover, lacrosse sticks are often sold or "cut" in varying lengths due to the size or age of the players. For example, very young children playing lacrosse frequently cut the length of their sticks to permit more easy handling. Thus, a six year old may have an extremely short length stick, which he will grow out of in a short period of time.

[0004] In addition, because the heads of sticks are typically made of plastic and mesh/string, one or more of these portions may become broken or torn during a game. Hence, there is a need for a quick release head.

[0005] Furthermore, to replace a stick or head during a game involves the use of at least a screw driver and, possibly, other tools. This necessitates that the change take place off of the lacrosse playing field or during a time-out.

[0006] Consequently, there is believed to be an unmet need in existing products and method of lacrosse play with respect to the foregoing points. It is the intention of the present invention to address these (and other) problems that currently exist.

[0007] To that end, applicants have devised new lacrosse stick designs and methods of using same. In particular, applicants have invented, *inter alia*, (1) an extendable lacrosse stick, (2) a quick release head/stick design, (3) a method of changing the lacrosse stick head or stick length "on the fly" so as to avoid leaving the playing field, and (4) a method of changing (either by a player or a non-player) a lacrosse head or stick length without the use of any separate tools.

[0008] These and other aspects, features and advantages provided by the designs and methods described herein will be better and more completely understood by referring to the following detailed description of example embodiments in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIGURE 1 is a drawing of an extendable lacrosse stick having telescopic shafts showing the stick in a shorter length, which when twisted can be unlocked so as to adjust the stick length and then relocked.

[0010] FIGURE 2 is a drawing showing the stick of FIGURE 1 in a longer or different length.

[0011] FIGURE 3 is a drawing of an extendable lacrosse stick having telescopic shafts showing the stick in a shorter length, wherein depressible knobs are used in combination with slots or holes to adjust the length of the stick and secure the desired stick length.

[0012] FIGURE 4 is a drawing showing the stick of FIGURE 3 in a longer or different length.

[0013] FIGURE 5 shows an example of a quick release lacrosse head and shaft.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0014] The following are exemplary embodiments of the applicants' invention that describe several examples of the invention. However, it must be emphasized that these embodiments are merely exemplary of the preferred embodiments and they do not set forth all of the possible ways in which the invention may be utilized.

[0015] FIGURE 1 shows an extendable lacrosse stick 10 according to the present invention. The stick has several parts to it, including the head 12, the shaft 14, butt 16 and locking/unlocking mechanism 18. The shaft 14 contains two or more telescopic shaft sections (not shown), which can slide relative to each other so that the stick length can be modified and then secured into a locked position to retain the desired length during use.

[0016] These telescopic shafts may be reinforced by ribbing, material selection (such as titanium, carbon fiber or other composition mixtures) or other structural reinforcement means. Although applicants have not currently constructed such a composite shaft, it is believed that the use of a composition mixture containing titanium and carbon fiber materials (either alone or in combination with other materials) may be desirable due to their light weight and high strength. These high-strength materials could be used to construct one or more of the telescoping shafts. For example, currently used metal alloys could be used for the outside telescoping shaft and the inner telescoping shaft(s) may be constructed of a composition including, *inter alia*, carbon fibers and/or titanium.

[0017] More specifically, if current metal alloy materials are used as the primary composition for one or more of the telescoping shafts, then the addition, *inter alia*, of carbon fibers and/or titanium may be useful in providing strength without unduly adding weight. Alternatively, if the main ingredient for one or more of the shafts is carbon fibers – *e.g.*, about 40% or more – then a relatively small amount of titanium may added, if desired (either with or without commonly used metal alloys). In that situation, the relatively small amounts of titanium would like be in amounts of about 25% or less. Of course, it is envisioned that one or more of the telescoping shafts may be made essentially or only from carbon fibers – *e.g.*, about 75% or more.

[0018] Twist lock/unlock mechanisms are well-known outside of the lacrosse stick field. For example, Quickie Manufacturing Co. of Cinnaminson, New Jersey sells an extendable pole having such a twist lock/unlock mechanism that is usable for painting, scrubbing, cleaning, dusting and the like. According to the instructions on the 16' Telescopic Handle product sold by that company, the pole is adjusted by (1) turning the handle counter-clockwise to unlock, (2) pulling/pushing one of the telescopic portions to adjust the length and (3) turning the handle of the locking/unlocking mechanism clockwise to lock the pole length. Similarly, extendable poles are known for nets used when fishing.

[0019] Although this embodiment shows only one lock/unlock mechanism, it may be desirable to utilize two or more such mechanisms. This may enhance the strength of lacrosse stick, which is subject to much abuse during use.

[0020] FIGURE 2 is a drawing showing the shaft of 14 stick 10 of FIGURE 1 in a longer or different length.

[0021] FIGURE 3 is a drawing of an alternative embodiment of an extendable lacrosse stick 110 having telescopic shafts. The stick 110 has several parts to it, including the head 112, the shaft 114, butt 116 and locking/unlocking knobs 118. As noted above, the shaft 114 contains two or more telescopic shaft sections (not shown), which can slide relative to each other so that the stick length can be modified and then secured into a locked position to retain the desired length during use.

[0022] In this embodiment, depressible knobs 118 are used in combination with slots or holes 120 to adjust the length of the stick and secure that stick length. The combination use of these types of knobs and holes/slots is well-known outside of the lacrosse field. Furthermore, depressible knobs are just one example of mechanical means that may be used with holes/slots and many other alternative means may be employed while still utilizing the invention.

[0023] FIGURE 4 is a drawing showing the shaft of 114 stick 110 of FIGURE 3 in a longer or different length.

[0024] FIGURE 5 shows an example of a quick release lacrosse head 210 and shaft 212. Basically, the head 210 and shaft 212 have a hand-releasable mechanism that permits the quick release and attachment of the structures. Although depressible knobs

214 and holes/slots 216 are shown in this Figure, alternative structures for quick hand-release and attachment mechanisms are well-known outside of the lacrosse field. Those alternative mechanisms may be employed while still utilizing the present invention.

[0025] Turning to the methods of use of the applicants' invention, the invention includes, *inter alia*, (1) a method of changing the lacrosse stick head or stick length "on the fly" so as to avoid leaving the playing field, and (2) a method of changing a lacrosse head or stick length without the use of any separate tools.

[0026] Thus, for example, in the situation of a "long pole" middie, he may want to have the stick at a long length when he is on the defensive side of the field and to have the stick at a shorter length when he is on the attack side of the field. The player in that situation could adjust the pole length as he moves up or down the field. Moreover, this can be done without the use of any separate tool and/or without leaving the playing field.

[0027] Similarly, if a girl's stick is damaged or the head broken (or the head's string/leather torn), she may want to run to the side of the field (either with or without leaving the playing area) and quickly change the head or shaft without the use of any separate tools.

[0028] While the above designs and methods have been described in connection with certain example embodiments, it is to be understood that the designs and methods are not limited to the example embodiments, but, on the contrary, are intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims. In addition, while various advantages are described in connection with these example embodiments, the scope of the claims is not limited to designs and methods that achieve any particular one or all of these advantages.